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PATENTS, TRADEMARKS & RELATED INTELLECTUAL PROPERTY MATTERS

January 13, 2004

Express Mail No: EL 802469840 US

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sirs:

Here is Applicant's Appeal Brief, in triplicate, in In re Application of Roger Willems, Serial No. 09/997,934, filed November 30, 2001, entitled "Sprung Surface Handle."

Here also is the filing fee for small entity of \$165.

You are authorized to charge payment of any fees associated with this appeal or credit any overpayment to Deposit Account No. 06-1985.

Please stamp the enclosed postcard with date of filing, and return to me.

Very truly yours,

Robert D. Hornbaker

RDH:lml  
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cc: Phil Stratford - w/encl.

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I certify that this transmittal letter, the enclosed Applicant's Appeal Brief, in triplicate, and fee of \$165 are being deposited on January 13, 2004, with the U.S. Postal Service "Express Mail to Addressee" under 37 C.F.R. 1.10, "Express Mail" Mailing Label Number EL 802469840 US, and is addressed to Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**GROUP 3600**



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AF 3676  
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Appeal Brief  
\$75  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of )  
Roger P. Willems )  
Serial No.: 09/997,934 )  
Filed: November 30, 2001 )  
Title: **SPRUNG SURFACE HANDLE** )

Examiner: Mark A. Williams  
Art Unit: 3676

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Applicant's Appeal Brief

(1) Real Parties In Interest. The real parties in interest are the applicant Roger P. Willems and his assignee Penn Fabrication (U.S.A.), Inc.

(2) Related Appeals and Interferences. None.

(3) Status of claims. The Examiner finally rejected all claims 1-30, under Section 103(a). Applicant and assignee appeal the rejections of all of these claims.

(4) Status of Amendments. No amendments filed subsequent to final rejections.

(5) Summary of Invention. A sprung surface handle for flat surfaces, such as the end of a trunk, or box, comprising a base plate 1 having edges 2, 3, 4; a handle 6 having a cross arm 7, side arms 8, 9, and turned-in arms 11, 12; a handle-mounting plate 13 on the base plate 1, having bearings 19, 20 at least partially surrounding the turned-in arms 11, 12; a spring 33 to bias handle 6 adjacent base plate 1; stops 21, 22 to engage the

side arms 8, 9 to stop rotation of the handle, after it has rotated away from the base plate 1; and raised handle protecting parts 29, 30, 31, 32, on the base plate 1, between the edges 2, 3, 4 thereof and the arms 7, 8, 9, to protect the handle from other objects.

(6) Issues. A concise statement of the issues are (a) whether the Examiner established a prima facie case of obviousness; (b) did the Examiner make any findings of fact supported by substantial evidence that was clear and convincing; (c) whether the Examiner set forth the reasons a skilled artisan with no knowledge of the claimed inventions would have selected the components for combination in the manner claimed; (d) was there any reason, suggestion or motivation to combine the two references, Koll U.S. Patent No. 2,715,243, issued August 16, 1955 and Willems U.S. Patent No. 5,797,635, issued August 25, 1998; (e) did the Examiner indicate where the suggestion to combine the references appears in the prior art; (f) whether the Examiner use prohibited hindsight; (g) did the Examiner erroneously rely upon per se rules for his rejections; (h) are unexpected results a requirement for non-obviousness; and (i) did the Examiner erroneously rely on case law to reject the claims.

(7) The claims of the groups do not stand or fall together, as explained in the following paragraph 8.

(8) The Examiner rejected all claims 1-30, under 35 U.S.C. § 103(a), as being unpatentable over Koll U.S. Patent No. 2,715,243, issued August 16, 1955, in view of Willems U.S. Patent

No. 5,797,635, issued August 25, 1998, both cited in applicant's Information Disclosure Statement. Significantly, applicant's attorney prepared the Information Disclosure Statement, with knowledge of applicant Willems' patent, and by using the prohibited hindsight of his invention described, and claimed, in this application. The Examiner has now used applicant's Information Disclosure Statement, and its prohibited hindsight, to combine the Koll and Willems Patents, and reject all of the claims, under Section 103(a).

The Examiner bears the burden of establishing a prima facie case of obviousness. Ex parte Primakoff, 64 USPQ2d 1848, 1851 (Board of Patent Appeals and Interferences 2002). If the Examiner fails to meet this burden, the applicant is entitled to the patent. In re Glaug, 62 USPQ2d 1151, 1152 (Fed. Cir. 2002). Since the Examiner did not establish a prima facie case of obviousness of any of the claims in this case, applicant is entitled to a patent with all claims 1-30.

The ultimate determination of obviousness is a legal conclusion, based on underlying findings of fact, supported by "substantial evidence." In re Thrift, 63 USPQ2d 2002, 2005 (Fed. Cir. 2002). "Substantial evidence" requires that the cited references support each element, or limitation, of the claims. Ibid., at page 2008, citing In re Vaeck, 20 USPQ2d 1438, 1443 (Fed. Cir. 1991). If the prior art references do not disclose one of the elements, or limitations, there is no need to consider whether there is substantial evidence to support the finding of

motivation to combine the references. In re Zurko, 59 USPQ2d 1693, 1696-1697 (Fed. Cir. 2001).

Where the claims recite elements, or limitations, not found in the prior art, the Examiner's mere assertion that these differences would have been obvious to one of ordinary skill in the art is not sufficient to establish that such differences would have been obvious, if the Examiner has not provided any evidence to support that assertion. The showing by "actual evidence" must be "clear and convincing." A broad conclusory statement regarding the obviousness of modifying a reference, standing alone, is not "evidence". Ex parte Schmidt, 64 USPQ2d 1723, 1728, footnote 5 (Board of Patent Appeals and Interferences 2002).

The Examiner must make the necessary findings and provide an administrative record showing the evidence on which his findings are based, accompanied by his reasoning in reaching his conclusions. In re Lee, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). It is fundamental that rejections for obviousness, under Section 103, must be based on evidence comprehended by the language of that section. Ibid.

The search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation or suggestion to select and combine the references relied upon as evidence of obviousness. Ibid. The factual inquiry whether to combine references must be thorough and searching. Ibid. It must be based on objective evidence of

record. Ibid. Particular findings must be made as to the reason the skilled artisan with no knowledge of the claimed invention would have selected these components for combination in the manner claimed. Ibid. The factual question of motivation is material and cannot be resolved on subjective belief and unknown authority. Ibid., at page 1434. The Examiner cannot rely on conclusory statements. Ibid., at page 1435. Hence, the Examiner cannot rely on a conclusion, made from "common knowledge and common sense", that the combined teachings of prior art references would have suggested the claimed invention to those of ordinary skill in the art. Ibid., at pages 1432-1435. The best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. Ibid., at page 1433. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher. In re Kotzab, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000); In re Dembiczak, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

"Basic knowledge and common sense" must be based on evidence in the record. In re Zurko, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). The Examiner cannot simply reach conclusions based on his own understanding and experience - or on his assessment of what

would be basic knowledge or common sense. Rather, the Examiner must point to some concrete evidence in the record to support these findings. Ibid.

The relevant inquiry is whether there is a reason, suggestion, or motivation in the prior art to combine the teachings of the references. Moreover, when an examiner maintains that there is an explicit or implicit teaching or suggestion in the prior art, the examiner should indicate where (page and line or figure) such teaching or suggestion appears in the prior art. Ex parte Jones, 62 USPQ2d 1206, 1208 (Board of Patent Appeals and Interferences 2001).

In rejecting the first group of claims, the Examiner said:

A. Regarding claims 1, 2, 4, 5, 7, 8, 10, 11, 29, and 30, Koll provides a sprung surface handle with mounting plate 5, a handle 7 with cross arm/grip 8 and side arms (9,11), and stop means (25, 26) as claimed. A channel is formed in the mounting plate having bearing surfaces therein, and received first and second turned-in ends as claimed. A spring 18 is provided for biasing the handle adjacent a wall like surfaces. Koll teaches the claimed invention except providing teaching of the mounting plate mounting the handle to a base plate, and the base plate having raised handle-protecting parts as claimed. Willems teaches the general concept of providing a base plate 40 with raised protecting parts 130 for use with a handle like

latching element (see column 3, lines 19-27). It would have been obvious at the time the invention was made to have included in the device of Koll such a modification, as generally taught in Willems, for the purpose of providing added protective means to keep objects away from the handle, thereby preventing the likely-hood [sic] of harming a person, object, or the handle itself.

Koll discloses "a bracket plate 5, having a centrally disposed transverse, open-ended channel 6", at col. 1, lines 36-38. Koll's bracket plate 5 corresponds to applicant's base plate 1. But neither Koll nor Willems discloses a separate "handle-mounting plate 13," on said base plate 1, as shown, described, and claimed, in claims 1-14 of applicant's invention, said "handle-mounting plate" also having the added limitations defined in each of said claims, namely, "said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate." Also, neither Koll nor Willems disclose "a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from the base plate," as shown,



described, and claimed in claims 5, 8, 11, 13, 15, 17, 19, 21, 23, 25 and 27. The Examiner admits that neither Koll nor Willems teaches a separate handle-mounting plate. Indeed, the Examiner states that Koll teaches the claimed invention "except providing teaching of the mounting plate mounting the handle to a base plate."

Significantly, applicant's separate "handle-mounting plate", on said base plate, is a new way of attaching the handle, and provides a stronger structure, for lifting, than Koll's bracket plate 5 alone.

Since Koll and Willems do not disclose a separate "handle-mounting plate", as defined in claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 15, 17, 19, 21, 23, 25 and 27, they should all be allowed, on this ground alone. In re Zurko, 59 USPQ 1693, 1696-1697 (Fed. Cir. 2001); In re Thrift, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002); In re Vaeck, 20 USPQ2d 1438, 1443 (Fed. Cir. 1991); MPEP § 2143.03.

Also, claims 1, 2, 4, 5, 7, 8, 10, 11, 29 and 30 define "a raised handle-protecting part [or parts], on said base plate". As the Examiner admits, Koll does not teach "the base plate having raised handle-protecting parts as claimed." However, the Examiner states: "Willems teaches the general concept of providing a base plate 40 with raised protecting parts 130 for use with a handle like latching element (see column 3, lines 19-27). It would have been obvious at the time the invention was made to have included in the device of Koll such a modification,

as generally taught in Willems, for the purpose of providing added protective means to keep objects away from the handle, thereby preventing the likely-hood [sic] of harming a person, object, or the handle itself."

Willems teaches "a frame 40 comprising a sheet metal dish 42 with upper and lower ends 45, 47 having a dish bottom 44 and a flange-like dish perimeter 46 with a flange 48 having an outer face 49", at column 2, lines 24-27. The six projecting parts 130 are on the flange-like dish perimeter 46, as stated at column 3, lines 19-20. Significantly, the sides of the dish 42 primarily protect the latch in the dish, which is not used for lifting, like applicant's handle, as described in his specification, at page 4, and bears no resemblance to applicant's handle, either in structure, or function. Willems does not teach "a raised handle-protecting part [or parts] on said base plate." Instead, he teaches latch-protecting parts, primarily the sides of the dish 42. Hence, a person skilled in the surface handle for lifting art would not look to the dished latch art, such as Willems, for the solution to applicant's problem, in the surface handle for lifting art. Indeed, no one did so until the Examiner, almost fifty years after Koll issued, with the hindsight of the Information Disclosure Statement.

The Examiner's rejection of claims 1, 2, 4, 5, 7, 8, 10, 11, 29 and 30, on the stated grounds that "it would have been obvious at the time the invention was made to have included in the device of Koll such a modification, as generally taught in Willems, for

the purpose of providing added protective means to keep objects away from the handle" is a mere assertion, a conclusion, without underlying findings of fact, supported by substantial evidence. In particular, there are no findings, or evidence, on whether there is a teaching, motivation or suggestion to select and combine the Koll and Willems references, which cannot be resolved on subjective belief. Moreover, the Examiner did not indicate where (page and line or figure) such teaching or suggestion appears in the prior art. Instead, the Examiner masterfully applied the hindsight of applicant's invention, and the Information Disclosure Statement, to combine the Koll surface handle for lifting, and Willems dish for a latch, which have nothing in common.

Hence, the Examiner failed to carry his burden of establishing a prima facie case of obviousness.

In rejecting the second group of claims, the Examiner said:

B. Regarding claims 3, 6, 9, and 12, the combination of Koll and Willems does not explicitly teach the stops being on the base plate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to put the stops on the base plate as oppose [sic] to the mounting plate, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. Such a modification would have solved no stated problem and would have provided no unexpected

results.

Again, like claims 1, 2, 4, 5, 7, 8, 10 and 11, dependent claims 3, 6, 9, and 12 contain the limitations, in the independent claims 1, 4, 7, and 10, of "a handle-mounting plate, on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate." Since "a handle-mounting plate" as so defined, is not disclosed in the Koll and Willems references, either with, or without, stops, these claims should also be allowed, for this reason alone. In re Zurko, 59 USPQ 1693, 1696-1697 (Fed. Cir. 2001); In re Thrift, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002); In re Vaeck, 20 USPQ2d 1438, 1443 (Fed. Cir. 1991); MPEP § 2143.03.

In addition, the dependent claims 3, 6, 9 and 12 are further limitations on independent claims 1, 4, 7 and 10, which are patentable, for the reasons already stated. As a result, the dependent claims 3, 6, 9 and 12 are also patentable.

The Examiner states that rearranging the parts of an invention involves only routine skill in the art, citing In re Japikse, 86 USPQ 70 (CCPA 1950). The Examiner also states that such a modification would have solved no stated problem and would

have provided no unexpected results. The Examiner's reference to In re Japikse, 86 USPQ 70 (CCPA 1950), which involved an invention of a Hydraulic Power Press, apparently refers to the statement that "there would be no invention in shifting the starting switch disclosed by Cannon to a different position since the operation of the device would not thereby be modified," at page 73. Applicant's invention is not related, or similar, to hydraulic power presses, or to switches, and the Examiner has provided no evidence in support of his conclusion that putting the stops on the base plate would have been obvious to one having ordinary skill in the art at the time the invention was made. Such a modification solved the problem of stopping the rotation of the handle, so it could be used for lifting. And it is hornbook law that unexpected results are not a requirement for non-obviousness. 2 Chisum on Patents, § 5.04[1], at page 5-283. As will be shown later, the criticality of the specific limitations in claims 3, 6, 9 and 12 make it inappropriate to rely solely on case law as the rationale to support an obviousness rejection.

While rearranging the parts in In re Japske, 86 USPQ 70, involved only routine skill in the art, the mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims is not by itself sufficient to support a finding of obviousness, in this case. The prior art must provide a motivation or reason for the worker in the art, without the benefit of applicant's specification, to

make the necessary changes in the reference device. MPEP § 2144.04 VI C, Rearrangement of Parts.

In rejecting the third group of claims, the Examiner said:

C. Regarding claims 13-28, noting the above rejections, the combination of Koll and Willems discloses the claimed invention except for explicitly teaching a groove engaging an end of the spring member as claimed. Such a modification is very old and well known in the art of such spring biased devices, as evidenced by Hardigg et al., US Patent 5,461,755 (element 64); and such a modification is considered a matter of design choice. It would have been an obvious matter of design choice to make the different portions of the spring end engaging-part of the device of whatever form or shape was desired or expedient. A change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.*, 149 USPQ 47. Such a modification is not considered novel and would have produced no unexpected result.

Like claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12, claims 13-20 all contain the limitation "a handle-mounting plate on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least

partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate." Also, like claims 5, 8 and 11, claims 13, 15, 17, 19, 21, 23, 25 and 27 disclose "a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from the base plate." Since a "handle-mounting plate" as so described is not disclosed in either the Koll or Willems references, these claims should be allowed, for this reason alone. In re Zurko, 59 USPQ 1693, 1696-1697 (Fed. Cir. 2001); In re Thrift, 63 USPQ2d 2002, 2008 (Fed. Cir. 2002); In re Vaeck, 20 USPQ2d 1438, 1443 (Fed. Cir. 1991); MPEP § 2143.03.

Claims 13-20 all contain the further limitation "said handle-mounting plate also having a groove in the bottom surface thereof," which is not disclosed in the references.

The Examiner cites In re Dailey, 149 USPQ 47 (CCPA 1966), which involved a Nursing Container, where the court held the particular configuration of applicant's container was one of numerous configurations a person of ordinary skill would find obvious for the purpose of providing mating surfaces in the collapsed container of prior art Matzen, at page 50. Here, applicant's invention is not related, or similar, to nursing containers, and the change in form or shape was not in the configuration of a container disclosed in the references. Here,

the groove, in the bottom surface of the handle-mounting plate, is not disclosed in the references. Hence, the conclusion, in In re Dailey et al., is not applicable to applicant's invention because there is no evidence to support it. The Examiner's conclusion is not evidence. And, as previously pointed out, it is hornbook law that unexpected results are not a requirement for non-obviousness. 2 Chisum on Patents, § 5.04[1], at page 5-283.

Again, the criticality of the specific limitations in claims 13-28 make it inappropriate to rely solely on case law as the rationale to support an obviousness rejection. As stated in MPEP § 2144.04; Legal Precedent as Source of Support Rationale:

As discussed in MPEP § 2144, if the facts in a prior legal decision are sufficiently similar to those in an application under examination, the examiner may use the rationale used by the court. Examples directed to various common practices which the court has held normally require only ordinary skill in the art and hence are considered routine expedients are discussed below. If the applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection. (Underlining added)

MPEP § 2144.04 IV B, Change in Shape, cites In re Daily, 149 USPQ 47 (CCPA 1966), relied on by the Examiner. But the facts in In re Daily, as in In re Japiske, are not sufficiently similar to



applicant's invention. Also, the applicant has demonstrated that the spring end engaging part is defined as in a groove in the bottom surface of the handle-mounting plate, in claims 13-20, a critical specific limitation not disclosed in the references.

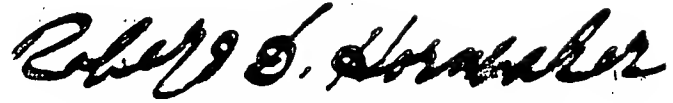
Lastly, a statement that "such a modification is considered a matter of design choice" fails to demonstrate how the references teach or suggest their combination to yield the claimed invention. In re Dembiczak, 50 USPQ2d 1614, 1618 (Fed. Cir. 1999).

In summary, the Examiner (1) did not establish a prima facie case of obviousness for claims 1-30; (2) did not make any findings of fact supported by substantial evidence that was clear and convincing as to claims 1-30; (3) the Examiner did not set forth any reasons a skilled artisan with no knowledge of the claimed inventions would have selected the Koll surface handle in the lifting art and the Willems recessed latch patents for combination in the manner claimed in claims 1-30; (4) there was no reason, suggestion or motivation to combine the Koll and Willems patents; (5) the Examiner did not indicate where the suggestion to combine the Koll surface handle in the lifting art with the Willems recessed latch patent appears in the prior art; (6) the Examiner used prohibited hindsight; (7) erroneously relied upon per se rules for his rejection of claims 3, 6, 9 and 12, and claims 13-28; (8) unexpected results are not a requirement for non-obviousness of claims 3, 6, 9 and 12, and claims 13-28; and (9) the Examiner erroneously relied on case law

to reject claims 3, 6, 9 and 12, and claims 13-28.

So claims 1-30 should be allowed.

Dated: January 13, 2004



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Robert D. Hornbaker  
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(9) Appendix

1. A sprung surface handle comprising:

a base plate having edges;

a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate; and

a raised handle-protecting part, on said base plate, between an edge thereof and at least one arm of said handle, when said cross arm is adjacent said base plate.

2. The sprung surface handle recited in claim 1, further comprising a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate.

3. The sprung surface handle recited in claim 1, further comprising a stop, on said base plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it

has rotated away from said base plate.

4. A sprung surface handle comprising:

a base plate having edges;

a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate; and

a raised handle-protecting part, on said base plate, between an edge thereof and said cross arm, when said cross arm is adjacent said base plate.

5. The sprung surface handle recited in claim 4, further comprising a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate.

6. The sprung surface handle recited in claim 4, further comprising a stop, on said base plate, adapted to engage at least

one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate.

7. A sprung surface handle comprising:

a base plate having edges;

a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate; and

raised handle-protecting parts, on said base plate, between an edge thereof and said first side arm, and between an edge thereof and said second side arm, when said cross arm is adjacent said base plate.

8. The sprung surface handle recited in claim 7, further comprising a stop in said handle-mounting plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate.

9. The sprung surface handle recited in claim 7, further comprising a stop, on said base plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate.

10. A sprung surface handle comprising:

a base plate having edges;

a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate; and

raised handle-protecting parts, on said base plate, between an edge of said base plate and said cross arm, between an edge of said base plate and said first side arm, and between an edge of said base plate and said second side arm, when said cross arm is adjacent said base plate.

11. The sprung surface handle recited in claim 10, further comprising a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate.

12. The sprung surface handle recited in claim 10, further comprising a stop, on said base plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate.

13. A sprung surface handle comprising:

a base plate having edges;

a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate, said handle-mounting plate also having a groove in the bottom surface

thereof;

a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate;

a spring having first and second ends, in said channel, said spring having said first end in said groove, between said base plate and said handle mounting plate, and said second end connected to one of the turned-in ends, to bias said handle adjacent said base plate; and

a raised handle-protecting part, on said base plate, between an edge thereof and at least one arm of said handle, when said cross arm is adjacent said base plate.

14. The sprung surface handle recited in claim 13 wherein said stop is on said base plate.

15. A sprung surface handle comprising:

a base plate having edges;

a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said



first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate, said handle mounting plate also having a groove in the bottom surface thereof;

a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate;

a spring having first and second ends, in said channel, said spring having said first end in said groove, between said base plate and said handle-mounting plate, and said second end connected to one of the turned-in ends, to bias said handle adjacent said base plate; and

a raised handle-protecting part, on said base plate, between an edge thereof and said cross arm, when said cross arm is adjacent said base plate.

16. The sprung surface handle recited in claim 15 wherein said stop is on said base plate.

17. A sprung surface handle comprising;

a base plate having edges;

a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said

first and second side arms;

a handle-mounting plate on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate, said handle mounting plate also having a groove in the bottom surface thereof;

a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to prevent rotation of the handle, after it has rotated away from said base plate;

a spring having first and second ends, in said channel, said spring having said first end in said groove, between said base plate and said handle mounting plate, and said second end connected to one of the turned-in ends, to bias said handle adjacent said base plate; and

raised handle-protecting parts, on said base plate, between an edge thereof and said first side arm, and between an edge thereof and said second side arm, when said cross arm is adjacent said base plate.

18. The sprung surface handle recited in claim 17 wherein said stop is on said base plate.

19. A sprung surface handle comprising:

a base plate having edges;

a handle having a cross arm, first and second said arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate, said handle-mounting plate also having a groove in the bottom surface thereof;

a stop, in said handle-mounting plate, adapted to engage one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate;

a spring having first and second ends, in said channel, said spring having said first end in said groove, between said base plate and said handle-mounting plate, and said second end connected to one of the turned-in ends, to bias said handle

adjacent said base plate; and

raised handle-protecting parts, on said base plate, between an edge of said base plate and said cross arm, between an edge of said base plate and said first side arm, and between an edge of said base plate and said second side arm, when said cross arm is adjacent said base plate.

20. The sprung surface handle recited in claim 19 wherein said stop is on said base plate.

21. A sprung surface handle comprising:

a base plate having edges, said base plate also having a groove in the top surface thereof;

a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate;

a stop, in said handle-mounting plate, adapted to engage at

least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate;

a spring having first and second ends, in said channel, said spring having said first end in said groove, between said base plate and said handle mounting plate, and said second end connected to one of the turned-in ends, to bias said handle adjacent said base plate; and

a raised handle-protecting part, on said base plate, between an edge thereof and at least one arm of said handle, when said cross arm is adjacent said base plate.

22. The sprung surface handle recited in claim 21 wherein said stop is on said base plate.

23. A sprung surface handle comprising:

a base plate having edges, said base plate also having a groove in the top surface thereof;

a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle-mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least

partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate;

a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate;

a spring having first and second ends, in said channel, said spring having said first end in said groove, between said base plate and said handle-mounting plate, and said second end connected to one of the turned-in ends, to bias said handle adjacent said base plate; and

a raised handle-protecting part, on said base plate, between an edge thereof and said cross-arm, when said cross arm is adjacent said base plate.

24. The sprung surface handle recited in claim 23 wherein said stop is on said base plate.

25. A sprung surface handle comprising;  
a base plate having edges, said base plate also having a groove in the top surface thereof;  
a handle having a cross arm, first and second side arms, and first and second turned-in coaxial arms, extending from said first and second side arms;  
a handle-mounting plate on said base plate, said handle-

mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate;

a stop, in said handle-mounting plate, adapted to engage at least one of said side arms, to prevent rotation of the handle, after it has rotated away from said base plate;

a spring having first and second ends, in said channel, said spring having said first end in said groove, between said base plate and said handle mounting-plate, and said second end connected to one of the turned-in ends, to bias said handle adjacent said base plate; and

raised handle-protecting parts, on said base plate, between an edge thereof and said first side arm, and between an edge thereof and said second side arm, when said cross arm is adjacent said base plate.

26. The sprung surface handle recited in claim 25 wherein said stop is on said base plate.

27. A sprung surface handle comprising:

a base plate having edges, said base plate also having a

groove in the top surface thereof;

a handle having a cross arm, first and second said arms, and first and second turned-in coaxial arms, extending from said first and second side arms;

a handle-mounting plate, on said base plate, said handle mounting plate having a channel formed therein, said channel having first and second internal bearing surfaces, said first internal bearing surface at least partially surrounding said first turned-in end, and said second bearing surface at least partially surrounding said second turned-in end, said turned-in ends being rotatable in said bearing surfaces to a position in which said cross arm is adjacent said base plate;

a stop, in said handle-mounting plate, adapted to engage one of said side arms, to stop rotation of the handle, after it has rotated away from said base plate;

a spring having first and second ends, in said channel, said spring having said first end in said groove, between said base plate and said handle-mounting plate, and said second end connected to one of the turned-in ends, to bias said handle adjacent said base plate; and

raised handle-protecting parts, on said base plate, between an edge of said base plate and said cross arm, between an edge of said base plate and said first side arm, and between an edge of said base plate and said second side arm, when said cross arm is adjacent said base plate.



28. The sprung surface handle recited in claim 27 wherein said stop is on said base plate.

29. A sprung surface handle comprising:  
a base plate having edges;  
a handle rotationally mounted on said base plate; and  
a raised handle protecting part, on said base plate, between and edge thereof and said handle, when said handle is adjacent said base plate.

30. The sprung surface handle recited in claim 29, further comprising a spring to bias said handle adjacent said base plate.